



## SEQUENCE LISTING

<110> SCHEMBRI, MARK ANDREW  
KLEMM, PER

<120> NOVEL MULTIFUNCTIONAL ADHESIVE PROTEINS AND THEIR  
DISPLAY IN MICROBIAL CELLS

<130> 54259.000003

<140> 09/301,704

<141> 1999-04-29

<160> 63

<170> PatentIn Ver. 2.1

<210> 1

<211> 300

<212> PRT

<213> Escherichia coli

<400> 1

Met Lys Arg Val Ile Thr Leu Phe Ala Val Leu Leu Met Gly Trp Ser  
1 5 10 15

Val Asn Ala Trp Ser Phe Ala Cys Lys Thr Ala Asn Gly Thr Ala Ile  
20 25 30

Pro Ile Gly Gly Gly Ser Ala Asn Val Tyr Val Asn Leu Ala Pro Val  
35 40 45

Val Asn Val Gly Gln Asn Leu Val Val Asp Leu Ser Thr Gln Ile Phe  
50 55 60

Cys His Asn Asp Tyr Pro Glu Thr Ile Thr Asp Tyr Val Thr Leu Gln  
65 70 75 80

Arg Gly Ser Ala Tyr Gly Gly Val Leu Ser Asn Phe Ser Gly Thr Val  
85 90 95

Lys Tyr Ser Gly Ser Ser Tyr Pro Phe Pro Thr Thr Ser Glu Thr Pro  
100 105 110

Arg Val Val Tyr Asn Ser Arg Thr Asp Lys Pro Trp Pro Val Ala Leu  
115 120 125

Tyr Leu Thr Pro Val Ser Ser Ala Gly Gly Val Ala Ile Lys Ala Gly  
130 135 140

Ser Leu Ile Ala Val Leu Ile Leu Arg Gln Thr Asn Asn Tyr Asn Ser  
145 150 155 160

Asp Asp Phe Gln Phe Val Trp Asn Ile Tyr Ala Asn Asn Asp Val Val  
165 170 175

Val Pro Thr Gly Gly Cys Asp Val Ser Ala Arg Asp Val Thr Val Thr  
180 185 190

Leu Pro Asp Tyr Pro Gly Ser Val Pro Ile Pro Leu Thr Val Tyr Cys  
195 200 205

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Ala Lys Ser Gln Asn Leu Gly Tyr Tyr Leu Ser Gly Thr His Ala Asp  
210 215 220

Ala Gly Asn Ser Ile Phe Thr Asn Thr Ala Ser Phe Ser Pro Ala Gln  
225 230 235 240

Gly Val Gly Val Gln Leu Thr Arg Asn Gly Thr Ile Ile Pro Ala Asn  
245 250 255

Asn Thr Val Ser Leu Gly Ala Val Gly Thr Ser Ala Val Ser Leu Gly  
260 265 270

Leu Thr Ala Asn Tyr Ala Arg Thr Gly Gly Gln Val Thr Ala Gly Asn  
275 280 285

Val Gln Ser Ile Ile Gly Val Thr Phe Val Tyr Gln  
290 295 300

<210> 2

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Binding motif

<220>

<221> MOD\_RES

<222> (2)..(4)

<223> "Xaa" represents a variable, modified or unknown  
amino acid

<400> 2

His Xaa Xaa Xaa His Arg Ser  
1 5

<210> 3

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Binding motif

<220>

<221> MOD\_RES

<222> (2)..(4)

<223> "Xaa" represents a variable, modified or unknown  
amino acid

<400> 3

Arg Xaa Xaa Xaa His Arg Ser  
1 5

<210> 4

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Binding motif

<220>

<221> MOD\_RES

<222> (3)..(4)

<223> "Xaa" represents a variable, modified or unknown amino acid

<400> 4

Ser Lys Xaa Xaa His Arg Ser  
1 5

<210> 5

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Binding motif

<220>

<221> MOD\_RES

<222> (3)..(4)

<223> "Xaa" represents a variable, modified or unknown amino acid

<400> 5

Ser Arg Xaa Xaa His Arg Ser  
1 5

<210> 6

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Binding motif

<220>

<221> MOD\_RES

<222> (3)..(4)

<223> "Xaa" represents a variable, modified or unknown amino acid

<400> 6

Thr Lys Xaa Xaa His Arg Ser  
1 5

<210> 7

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Binding motif

<220>  
 <221> MOD\_RES  
 <222> (3)..(4)  
 <223> "Xaa" represents a variable, modified or unknown amino acid

<400> 7  
 Thr Arg Xaa Xaa His Arg Ser  
 1 5

<210> 8  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 Oligonucleotide for the construction of a  
 double-stranded poly histidine segment (Example 1)

<400> 8  
 gatctcatca ccattcatcac catg

24

<210> 9  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 Oligonucleotide for the construction of a  
 double-stranded poly histidine segment (Example 1)

<400> 9  
 gatccatggt gatgatggtg atga

24

<210> 10  
 <211> 54  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Template oligonucleotide

<220>  
 <221> modified\_base  
 <222> (1)..(54)  
 <223> "n" represents a, t, c or g

<400> 10  
 ggacgcagat ctvnnvnnvn nvnnvnnvnn vnnvnnvnnna gatctagcac cagt

54

<210> 11  
 <211> 15  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer  
oligonucleotide

<400> 11

actgggtgcta gatct

15

<210> 12

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 12

Arg Ser Val Val Arg Pro Lys Ala Ala Thr Asn Arg Ser  
1 5 10

<210> 13

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 13

Arg Ser Arg Ile Arg His Arg Leu Val Gly Gln Arg Ser  
1 5 10

<210> 14

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 14

Arg Ser Val Lys Asp Gly Ser Ala Thr Ala Lys Arg Ser Val Ala Asn  
1 5 10 15

Phe Glu Thr Pro Arg Val Arg Ser  
20

<210> 15

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 15

Arg Ser Ala Pro Gln Thr Gly Arg Pro Asn Asn Arg Ser Leu Pro Leu  
1 5 10 15

Gly Asn Arg Asp Met Gln Arg Ser  
20

<210> 16

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 16

Arg Ser Val Gln Asn Asp Arg Ile Val Ala Gly Arg Ser  
1 5 10

<210> 17

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 17

Arg Ser Tyr Pro Pro Phe His Asn Asn Asp His Arg Ser  
1 5 10

<210> 18

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 18

Arg Ser Asn Thr Arg Met Thr Ala Arg Gln His Arg Ser Ala Asn His  
1 5 10 15

Lys Ser Thr Gln Arg Ala Arg Ser  
20

<210> 19  
<211> 24  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 19  
Arg Ser Leu Ala Ile Asp Gly Thr Asp Val Gln Arg Ser Lys Pro Leu  
1 5 10 15  
Ala Arg Ser Ser Gly Ala Arg Ser  
20

<210> 20  
<211> 35  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 20  
Arg Ser Pro Ser Pro Ile Arg Val Pro His His Arg Ser Thr Ala Ile  
1 5 10 15  
Pro Asn Arg Gln Leu Ile Arg Ser Gln Ile Arg Ile His Ala Met Gly  
20 25 30  
His Arg Ser  
35

<210> 21  
<211> 35  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 21  
Arg Ser Arg Arg Val Arg Asp Ile His Leu Gly Arg Ser Val Gln His  
1 5 10 15  
Arg Leu Gly Gln Pro Leu Arg Ser Leu His Gln Gln Ser Ser Pro Thr  
20 25 30  
Leu Arg Ser  
35

<210> 22  
<211> 46  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 22  
Arg Ser Arg Thr Pro Leu Ala Pro Val Pro Val Arg Ser Trp His Ile  
1 5 10 15  
Gly Ser Arg Thr Ile Ala Arg Ser Phe Asn Gly Ile Thr Ile Gly Asp  
20 25 30  
Asn Arg Ser Tyr Ile Pro Glu His Trp Tyr Trp Ser Arg Ser  
35 40 45

<210> 23  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 23  
Arg Ser Gly Arg Met Gln Arg Arg Val Ala His Arg Ser  
1 5 10

<210> 24  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 24  
Arg Ser Leu Gly Lys Asp Arg Pro His Phe His Arg Ser  
1 5 10

<210> 25  
<211> 24  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides



<400> 25

Arg Ser Arg Gly Leu Arg Asn Ile Leu Met Leu Arg Ser Tyr Asp Ser  
1 5 10 15

Arg Ser Met Arg Pro His Arg Ser  
20

<210> 26

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 26

Arg Ser Glu Pro Arg Arg Ala Thr Gln Ala Pro Arg Ser Lys Pro Gln  
1 5 10 15

Lys Asn Glu Pro Ala Pro Arg Ser  
20

<210> 27

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 27

Arg Ser Leu Gly Ala Val Ser Ser Leu Phe Ser Arg Ser Gln Lys Ile  
1 5 10 15

Met Gln Thr Asp Ile Val Arg Ser Lys Gly Val Arg Pro Gly Ala Gln  
20 25 30

Arg Arg Ser  
35

<210> 28

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 28

Arg Ser His His Met Leu Arg Arg Arg Asn Thr Arg Ser  
1 5 10

<210> 29  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 29  
Arg Ser His Ile Asn Ala Ser Gln Arg Val Ala Arg Ser  
1 5 10

<210> 30  
<211> 24  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 30  
Arg Ser Cys Pro Arg Leu Gly Val Trp Phe Tyr Arg Ser Leu Ser Val  
1 5 10 15

Gly Asp Gly Phe Val Arg Arg Ser  
20

<210> 31  
<211> 35  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 31  
Arg Ser Thr Ser Gly Pro Ser Arg Val Met Thr Arg Ser Ile Ile Leu  
1 5 10 15

Arg Ile Gly Thr Leu Asp Arg Ser Cys Leu Lys Val Phe His Met Gly  
20 25 30

Trp Arg Ser  
35

<210> 32  
<211> 35  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to metal  
oxides

<400> 32

Arg Ser Ile Thr Pro Ile Leu His Asp His Arg Arg Ser Ser Val Arg  
1 5 10 15

Pro Met Val Ala His Arg Arg Ser Pro Thr Leu Tyr Phe Pro Ala Ala  
20 25 30

Ser Arg Ser  
35

<210> 33

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Binding motif

<220>

<221> MOD\_RES

<222> (3)..(4)

<223> "Xaa" represents a variable, modified or unknown  
amino acid

<400> 33

Ser Lys Xaa Xaa Ala Arg  
1 5

<210> 34

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Binding motif

<220>

<221> MOD\_RES

<222> (3)..(4)

<223> "Xaa" represents a variable, modified or unknown  
amino acid

<400> 34

Ser Arg Xaa Xaa Ala Arg  
1 5

<210> 35

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Binding motif

<220>  
 <221> MOD\_RES  
 <222> (3)..(4)  
 <223> "Xaa" represents a variable, modified or unknown  
 amino acid  
  
 <400> 35  
 Thr Lys Xaa Xaa Ala Arg  
 1 5  
  
 <210> 36  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Binding motif  
  
 <220>  
 <221> MOD\_RES  
 <222> (3)..(4)  
 <223> "Xaa" represents a variable, modified or unknown  
 amino acid  
  
 <400> 36  
 Thr Arg Xaa Xaa Ala Arg  
 1 5  
  
 <210> 37  
 <211> 7  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Binding motif  
  
 <220>  
 <221> MOD\_RES  
 <222> (2)..(4)  
 <223> "Xaa" represents a variable, modified or unknown  
 amino acid  
  
 <400> 37  
 Arg Xaa Xaa Xaa His Arg Ser  
 1 5  
  
 <210> 38  
 <211> 24  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Sequence  
 conferring the ability of cells to adhere to ZnO  
  
 <400> 38  
 Arg Ser Asn Thr Arg Met Thr Ala Arg Gln His Arg Ser Ala Asn His

1

5

10

15

Lys Ser Thr Gln Arg Ala Arg Ser  
20

&lt;210&gt; 39

&lt;211&gt; 24

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to ZnO

&lt;400&gt; 39

Arg Ser Val Phe Leu Pro Ser Ile Leu Gly Trp Arg Ser Arg Leu Asp  
1 5 10 15

Asp Gln Gly Val Ala Ala Arg Ser  
20

&lt;210&gt; 40

&lt;211&gt; 24

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to ZnO

&lt;400&gt; 40

Arg Ser Thr Arg Asn Lys His Thr Thr Ala Arg Arg Ser Val Ala Pro  
1 5 10 15

Gly Ile Gly Glu Pro Ser Arg Ser  
20

&lt;210&gt; 41

&lt;211&gt; 24

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to ZnO

&lt;400&gt; 41

Arg Ser Ile Met His Val Arg Leu Arg Ala Arg Arg Ser Ala Arg His  
1 5 10 15

Met Lys Asp Ala Asp Pro Arg Ser  
20

&lt;210&gt; 42

&lt;211&gt; 24

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to ZnO

<400> 42

Arg Ser Pro Ile Ile Ile Arg Ser Arg Ile Asn Arg Ser His Gly Arg  
1 5 10 15

Thr Lys Ala Thr Pro Ala Arg Ser  
20

<210> 43

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to ZnO

<400> 43

Arg Ser Arg Gly Leu Arg Asn Ile Leu Met Leu Arg Ser Tyr Asp Ser  
1 5 10 15

Arg Ser Met Arg Pro His Arg Ser  
20

<210> 44

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to ZnO

<400> 44

Arg Ser Thr Arg Arg Gly Thr His Asn Lys Asp Arg Ser  
1 5 10

<210> 45

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to ZnO

<400> 45

Arg Ser Thr Val Pro Lys Lys Arg His Pro Lys Asp Arg Ser  
1 5 10

<210> 46

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Sequence  
conferring the ability of cells to adhere to ZnO

<400> 46

Arg Ser Tyr Asp Ser Arg Ser Met Arg Pro His Arg Ser  
1 5 10

<210> 47

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Insert  
sequence

<400> 47

Arg Ser His His His His His His Arg Ser  
1 5 10

<210> 48

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Insert  
sequence

<400> 48

Arg Ser His His His His His His Arg Ser His His His His His His  
1 5 10 15

Arg Ser

<210> 49

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Insert  
sequence

<400> 49

Arg Ser Ala Arg Pro Arg Ser Ala Ser Gly Pro Arg Ser Pro Met His  
1 5 10 15

Thr Ser Thr Thr Pro Pro Arg Ser  
20

<210> 50

<211> 13

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Insert  
sequence

<400> 50  
Arg Ser Arg Thr His Gly Pro Glu Gly Arg Pro Arg Ser  
1 5 10

<210> 51  
<211> 24  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Insert  
sequence

<400> 51  
Arg Ser Ser Leu Ser Leu Phe Phe Arg Asn Arg Arg Ser Ser Val Glu  
1 5 10 15

Asp Ala His Gln Thr Met Arg Ser  
20

<210> 52  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Insert  
sequence

<400> 52  
Arg Ser Gly Ala Asn Gly Arg Glu Leu His Thr Arg Ser  
1 5 10

<210> 53  
<211> 24  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Insert  
sequence

<400> 53  
Arg Ser Phe Ser Glu Thr Ala Gln Ser Thr Gly Arg Ser Tyr Val Lys  
1 5 10 15

Phe Val Trp Arg His His Arg Ser  
20

<210> 54



<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Insert  
sequence

<400> 54  
Arg Ser Ala Arg Gly His Val Leu Ile Ser Glu Arg Ser  
1 5 10

<210> 55  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Insert  
sequence

<400> 55  
Arg Ser His Leu Ser Arg Leu Arg Gly Asn Arg Arg Ser  
1 5 10

<210> 56  
<211> 24  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Insert  
sequence

<400> 56  
Arg Ser Arg Gly Val Asn Asp Ser Pro Asn Gly Arg Ser Ile Thr His  
1 5 10 15

Ile Arg Arg Thr His Lys Arg Ser  
20

<210> 57  
<211> 24  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Insert  
sequence

<400> 57  
Arg Ser Gln Val Leu Arg Arg Pro Glu Leu Ile Arg Ser Met Pro Glu  
1 5 10 15

His Arg Arg Arg Glu His Arg Ser  
20

<210> 58  
<211> 24  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Insert  
sequence

<400> 58  
Arg Ser Glu Arg Arg Thr Gly Glu Thr Gly Leu Arg Ser His Tyr Gly  
1 5 10 15  
Gln Leu Gly Tyr Arg Arg Arg Ser  
20

<210> 59  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Insert  
sequence

<400> 59  
Arg Ser Leu Arg Asn Gly Ile Leu Ser Arg His Arg Ser  
1 5 10

<210> 60  
<211> 24  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Insert  
sequence

<400> 60  
Arg Ser Thr Val Asn Gly Cys Val Ser His Ser Arg Ser Gly Gly Leu  
1 5 10 15  
Arg Ala Ser Arg Glu Val Arg Ser  
20

<210> 61  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Insert  
sequence

<400> 61  
Arg Ser Lys Val Arg Leu Arg Asp Glu His Glu Arg Ser  
1 5 10

<210> 62  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Insert  
sequence

<400> 62

Arg Ser Glu Gly Arg His Arg Arg Gly Gly Met Arg Ser  
1 5 10

<210> 63  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Binding motif

<220>

<221> MOD\_RES

<222> (1)..(9)

<223> "Xaa" represents a variable, modified or unknown  
amino acid

<400> 63

Thr Xaa Xaa Xaa Xaa His Xaa Lys Asp  
1 5

<210> 64  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Binding motif

<220>

<221> MOD\_RES

<222> (1)..(5)

<223> "Xaa" represents a variable, modified or unknown  
amino acid

<400> 64

Arg Xaa Xaa Arg Ser  
1 5

<210> 65  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Binding motif

<220>  
<221> MOD\_RES  
<222> (1)..(4)  
<223> "Xaa" represents a variable, modified or unknown  
amino acid

<400> 65  
Pro Xaa Arg Ser  
1